



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/829,146 | 04/09/2001 | Thomas N. Toombs | M-10234-1D US | 1045 |
| 36257 | 7590 | 02/27/2004 | EXAMINER | |
| PARSONS HSUE & DE RUNTZ LLP 655 MONTGOMERY STREET SUITE 1800 SAN FRANCISCO, CA 94111 | | | KIM, HONG CHONG | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2186 | |
| DATE MAILED: 02/27/2004 | | | | |

9

Please find below and/or attached an Office communication concerning this application or proceeding.

DR

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/829,146 | TOOMBS ET AL. |
| | Examiner | Art Unit |
| | Hong C Kim | 2186 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 December 2003.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 17-26 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

Detailed Action

1. Claims 17-26 are presented for examination. This office action is in response to the amendment filed on 12/15/2003.
2. Applicants are requested to supply Version 1.0, 1.1, 1.2, and 1.3 of The MultiMediaCard System Specification because information are not readily available to the examiner.
3. The declaration filed on 12/15/03 has been considered but is ineffective to overcome the MultiMediaCard System Specification Version 1.4 reference.
4. The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the MultiMediaCard reference. It appears that the applicants show evidence of concept of the invention without establishing a reduction to practice of the inventions. The affidavit or declaration must state FACTS and produce such documentary evidence and exhibits in support thereof as are available to show conception and completion of invention in this country or in a NAFTA or WTO member country (MPEP ' 715.07(c)), at least the conception being at a date prior to the effective date of the reference. Where there has not been reduction to practice prior to the date of the reference, the applicant or patent owner must also show diligence in the completion of his or her invention from a time just prior to the date of the reference continuously up to the date of an actual reduction to practice or up to the date of filing

his or her application (filing constitutes a constructive reduction to practice, 37 CFR 1.131). The showing of facts must be sufficient to show:

- (1) reduction to practice of the invention prior to the effective date of the reference; or
- (2) conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the reference date to a subsequent (actual) reduction to practice; or
- (3) conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the reference date to the filing date of the application (constructive reduction to practice). See 37 CFR 1.131. See MPEP ' 715 and MPEP ' 2138.04 through ' 2138.06 for a detailed discussion of the concepts of conception, reasonable diligence, and reduction to practice.

5. Also the evidence submitted is insufficient to establish a conception of the invention prior to the effective date of the MultiMediaCard reference. While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See *Mergenthaler v. Scudder*, 1897 C.D. 724, 81 O.G. 1417 (D.C. Cir. 1897). The showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice

or to the filing of the application. Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or declaration or their absence satisfactorily explained.

Claim Objections

6. Claim 17 is objected to because of the following informalities: as to claim 17, it appears that "15" should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fandrich et al. (Fandrich) U.S. Patent 5,418,752.

As to claim 23, Fandrich discloses the invention as claimed. Fandrich discloses

a memory system (Fig. 2) comprises a plurality of memory groups (col. 3 lines 55-60), each of the memory groups comprising a plurality of memory cells (col. 3 lines 55-60); a plurality of group tags (col. 11 lines 29-38, lock bits, and Fig. 3 Ref. 260), each of the group tags corresponding to one of the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are write protected (col. 11 lines 29-38 and Fig. 3 Ref. 260); and wherein any combination of the memory groups can be write protected (col. 11 lines 29-38, "corresponding blocks" read on this limitation and Fig. 3 Ref. 260).

As to claim 26, Fandrich further discloses a flash memory (Fig. 2 Ref. 20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fandrich et al. (Fandrich) U.S. Patent 5,418,752 in view of Kishi et al. (Kishi) U.S. Patent No. 4,841,432 or Noel et al. (Noel) U.S. Pub. No. 2002/00168891.

As to claim 24, Fandrich discloses the invention as claimed above, however, Fandrich does not specifically disclose the number of memory cells in each

memory group is configurable. Kishi discloses the number of memory cells in each memory group is configurable (abstract) for the purpose of optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory cells in each memory group is configurable as shown in Kishi into the invention of Fandrich because it would accommodate optimize flash devices.

Alternatively, Noel discloses the number of memory cells in each memory group is configurable (block 265) for the purpose of optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory cells in each memory group is configurable as shown in Noel into the invention of Fandrich because it would accommodate optimize flash devices.

As to claim 25, Kishi further discloses the corresponding cells in each memory groups is calculated in real time (col. 5 lines 32-42). Alternatively, Noel further discloses the corresponding cell in each memory groups is calculated in real time (block 265).

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harari et al. (Harari) U.S. Patent 5,418,752 in view of Kaki et al. (Kaki) U. S. Patent 5,809,515.

As to claim 17, Harari discloses a memory system (Fig. 1B) comprises a plurality of memory groups, each of the memory groups comprising a plurality of memory

sectors, each of the memory sectors (col. 1 line 61 thru col. 2 line 1) comprising a plurality of memory cells; a plurality of sector tags, each of the sector tags corresponds to a memory sector, each of the sector tags (col. 6 lines 41-46) indicating whether the memory cells under the corresponding memory sector are erasable, wherein all the memory cells belong to one memory sector are erasable when the corresponding sector tag is set, wherein any combination of memory sectors in a memory group can be simultaneously erased (col. 1 line 61 thru col. 2 line 1), however, Harari does not specifically disclose a plurality of group tags, each of the group tags corresponds to one of the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are erasable, wherein all the memory cells belong to one memory group are erasable when the corresponding group is set, wherein any combination of memory groups can be simultaneously erased.

Kaki discloses a plurality of group tags, each of the group tags corresponds to one of the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are erasable, wherein all the memory cells belong to one memory group are erasable when the corresponding group is set, wherein any combination of memory groups can be simultaneously erased (col. 7 line 64 thru col. 8 line 14) for the purpose of increasing the memory erasing speed thereby increasing the access bandwidth.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate plurality of group tags, each of the group tags corresponds to one of the memory groups, each of the group tags indicating

whether the memory cells under the corresponding memory group are erasable, wherein all the memory cells belong to one memory group are erasable when the corresponding group is set, wherein any combination of memory groups can be simultaneously erased as shown in Kaki into the invention of Harari because it would increase the memory access speed.

10. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harari et al. (Harari) U.S. Patent 5,418,752 in view of Kaki et al. (Kaki) U. S. Patent 5,809,515 and further in view of Kishi et al. (Kishi) U.S. Patent No. 4,841,432 or Noel et al. (Noel) U.S. Pub. No. 2002/00168891.

As to claim 18, Harari and Kaki disclose the invention as claimed above, however, neither Harari nor Kaki specifically discloses the number of memory sectors in each memory group is configurable. Kishi discloses the number of memory sectors in each memory group is configurable (abstract) for the purpose of optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory cells in each memory group is configurable as shown in Kishi into the combined invention of Harari and Kaki because it would accommodate optimize flash devices.

Alternatively, Noel discloses the number of memory sectors in each memory group is configurable (block 265) for the purpose of optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory sectors in each memory group is configurable as shown in Noel into the combined invention of Harari and Kaki because it would accommodate optimize flash devices.

As to claim 19, Kishi further discloses the corresponding sectors in each memory group is calculated in real time (col. 5 lines 32-42). Alternatively, Noel further discloses the corresponding sectors in each memory groups is calculated in real time (block 265).

As to claim 20, Harari and Kaki disclose the invention as claimed above, however, neither Harari nor Kaki specifically discloses the number of memory cells in each memory sector is configurable. Kishi discloses the number of memory cells in each memory sector is configurable (abstract) for the purpose of optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory cells in each memory sector is configurable as shown in Kishi into the combined invention of Harari and Kaki because it would accommodate optimize flash devices.

Alternatively, Noel discloses the number of memory cells in each memory sector is configurable (block 265) for the purpose of optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory cells in each

memory sector is configurable as shown in Noel into the combined invention of Harari and Kaki because it would accommodate optimize flash devices.

As to claim 21, Kishi further discloses the corresponding cells in each memory sector is calculated in real time (col. 5 lines 32-42). Alternatively, Noel further discloses the corresponding cells in each memory sector is calculated in real time (block 265).

As to claim 22, Harari further discloses a flash memory (abstract line 1)

Claim Rejections - 35 USC 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Harari et al. (Harari) U.S. Patent 5,418,752 or Claims 23 and 26 are rejected under 35 U.S.C. 102(a) as being anticipated by The MultiMediaCard, System Specification Version 1.4, MMCA Technical Committee.

As to claim 23, Harari discloses the invention as claimed. Harari discloses a memory system (Fig. 1B) comprises a plurality of memory groups (Fig. 3A Refs. 211

and 213), each of the memory groups comprising a plurality of memory cells; a plurality of group tags, each of the group tags corresponding to one if the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are write protected (col. 6 lines 41-46); and wherein any combination of the memory groups can be write protected (col. 1 line 61 thru col. 2 line 1).

Alternatively, As to claim 23, MultiMediaCard discloses the invention as claimed. Harari discloses a memory system (Fig. 1) comprises a plurality of memory groups (Fig. 3), each of the memory groups comprising a plurality of memory cells; a plurality of group tags, each of the group tags corresponding to one if the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are write protected (page 28-29); and wherein any combination of the memory groups can be write protected (page 28-29).

As to claim 26, Harari further discloses a flash memory (abstract line 1). MultiMediaCard further discloses a flash memory (Fig. 6).

Claim Rejections - 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

12. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harari et al. (Harari) U.S. Patent 5,418,752 in view of The MultiMediaCard, System Specification Version 1.4, MMCA Technical Committee.

As to claim 24, Harari discloses the invention as claimed above, however, Harari does not specifically disclose the number of memory cells in each memory group is configurable. MultiMediaCard discloses the number of memory cells in each memory group is configurable (Page 57) for the purpose of accommodating different devices and optimizing flash devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the number of memory cells in each memory group is configurable as shown in MultiMediaCard into the invention of Harari because it would accommodate different devices and optimize flash devices.

As to claim 25, MultiMediaCard further discloses the corresponding cells in each memory groups is calculated in real time (Page 57).

13. Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harari et al. (Harari) U.S. Patent 5,418,752 in view of The MultiMediaCard, System

Specification Version 1.4, MMCA Technical Committee.

As to claim 17, Harari discloses a memory system (Fig. 1B) comprises a plurality of memory groups, each of the memory groups comprising a plurality of memory sectors, each of the memory sectors (col. 1 line 61 thru col. 2 line 1) comprising a plurality of memory cells; a plurality of sector tags, each of the sector tags corresponds to a memory sector, each of the sector tags (col. 6 lines 41-46) indicating whether the memory cells under the corresponding memory sector are erasable, wherein all the memory cells belong to one memory sector are erasable when the corresponding sector tag is set, wherein any combination of memory sectors in a memory group can be simultaneously erased (col. 1 line 61 thru col. 2 line 1), however, Harari does not specifically disclose a plurality of group tags, each of the group tags corresponds to one of the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are erasable, wherein all the memory cells belong to one memory group are erasable when the corresponding group is set, wherein any combination of memory groups can be simultaneously erased.

MultiMediaCard discloses a plurality of group tags, each of the group tags corresponds to one of the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are erasable, wherein all the memory cells belong to one memory group are erasable when the corresponding group is set, wherein any combination of memory groups can be simultaneously erased (pp 28, 29, 44, 57) for the purpose of increasing the memory erasing speed thereby increasing the access bandwidth.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate plurality of group tags, each of the group tags corresponds to one of the memory groups, each of the group tags indicating whether the memory cells under the corresponding memory group are erasable, wherein all the memory cells belong to one memory group are erasable when the corresponding group is set, wherein any combination of memory groups can be simultaneously erased as shown in MultiMediaCard into the invention of Harari because it would increase the memory access speed.

As to claim 18, MultiMediaCard further discloses the number of memory sectors in each memory group is configurable (Page 57).

As to claim 19, MultiMediaCard further discloses the corresponding sectors in each memory group is calculated in real time (Page 57).

As to claim 20, MultiMediaCard further discloses the number of memory cells in each memory sector is configurable (Page 57).

As to claim 21, MultiMediaCard further discloses the corresponding cells in each memory sector is calculated in real time (Page 57).

As to claim 22, Harari further discloses a flash memory (abstract line 1).

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

2. a shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

3. When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. ' 1.111(c).

4. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hong Kim whose telephone number is (703) 305-

3835. The Examiner can normally be reached on the weekdays from 8:30 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matt Kim, can be reached on (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to TC-2100:
(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

HK

Primary Patent Examiner
February 23, 2003